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in seismology seminar room, **F1 219**, Mlynská dolina

The 2009 L'Aquila (Central Italy) Earthquake: seismicity pattern and rupture history

Abstract: On April 6th 2009, a magnitude $M_w=6.3$ earthquake struck the Abruzzi region in the central Italy. Despite its moderate size, the earthquake caused 293 casualties and partially destroyed the city of L'Aquila and many villages in its surroundings. The main shock was preceded by an earthquake swarm that started at the end of 2008. The foreshock activity and especially the largest shock of ML 4.0 are located very close to the hypocenter of the main shock. The foreshocks were felt by the population and generated concern about the possible occurrence of a subsequent stronger event. This fact and the claimed prediction of a large catastrophic earthquake amplified the societal impact of the main shock and induced a biased media debate on earthquake predictability. To date, more than 10,000 aftershocks with $ML>1.5$ have been recorded by the INGV seismic network and three featured ML larger than 5.0.

In this seminar I will summarize the results obtained so far by analyzing the available geophysical data. In particular, I will discuss the rupture history of the L'Aquila main shock imaged by using a nonlinear joint inversion of strong motion and GPS data.

